647510 **BSc6PhyC603x** **Seat No :_____**

B.Sc. Semester - 6 (*CBCS*) Examination
March/April-2024 (NEW COURSE)
Solid State Electronics (Core (New))

Time: 2:30 Hours **Marks: 70**

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate marks.

Que.1(A) Answer the following question. (any two) (10)

(1) Write a note on transformer coupled amplifier.

(2) Explain performance quantities of power amplifiers.

(3) Explain push-pull amplifier.

Que.1(B) Answer the following question (any one) (04)

(1) Write a short note on role of capacitors in multistage transistor amplifier.

(2) Explain the difference between a voltage and a power amplifier.

Que.2(A) Answer the following question. (any two) (10)

(1) Explain switching action of transistor.

(2) Write a note on monostable multivibrator.

(3) Explain integrating circuit.

Que.2(B) Answer the following question (any one) (04)

(1) Explain positive clipper.

(2) Explain negative clamper.

Que.3(A) Answer the following question. (any two) (10)

(1) Explain transistor series voltage regulator.

(2) Explain Zener diode as a voltage regulator.

(3) Write a note on ICs with advantages and disadvantages.

Que.3(B) Answer the following question (any one) (04)

(1) If the d.c.output voltage is 400 V with no load attached to power supply but decreases to 300 V at full load, find the percentage voltage regulation.

(2) Give the comparisons between different types of ICs.

Que.4(A) Answer the following question. (any two) (10)

(1) Draw the basic circuit of differential amplifier and write its important points.

(2) Explain inverting amplifier.

(3) Discuss how an OP-Amp can be used as an Adder.

Que.4(B) Answer the following question (any one) (04)

(1) Write a note on OP-Amp as an integrator.

(2) Determine the voltage gain of a non-inverting OP-AMP amplifier having R_1=100K and R_f=1MΩ.

Que.5(A) Answer the following question. (any two) (10)

(1) Write note on digital voltmeter.

(2) Explain 16 to 1multiplexer.

(3) Write a note on clocked RS flip-flop.

Que.5(B) Answer the following question (any one) (04)

(1) Write applications of CRO.

(2) Explain D flip-flop.

****